

WORMHOLES IN R^2 -GRAVITY WITHIN THE $f(R, T)$ FORMALISM

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ABSTRACT

We propose, as a novelty in the literature, the modelling of wormholes within the particular case of the $f(R, T)$ gravity, namely $f(R, T) = R + \alpha R^2 + \lambda T$, with R and T being the Ricci scalar and trace of the energy-momentum tensor, respectively, while α and λ are constants. Although such a functional form application can be found in the literature, those concern to compact astrophysical objects, such that no wormhole analysis has been done so far. The quadratic geometric and linear material corrections of this theory make the matter content of the wormhole to remarkably be able to obey the energy conditions.

References

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